

Application No.: 09/937,761

Docket No.: 20234-00073-US

REMARKS

The Office Action and prior art relied upon have been carefully considered. Original claims 1-17 have been canceled and in their stead, claims 18-34 are submitted for the Examiner's consideration. The new claims are believed to be clearly recited so that further rejection under 35 U.S.C. §112 is not anticipated.

The following discussion provides applicant's position relative to the previously cited prior art that was applied to the original claim 1 under 35 U.S.C. §102. The newly added claims 18-34 are not anticipated by the cited references.

Crolla et al (US 1,051,562) clearly discloses a wrench, but there are no separate clamping means or cam surfaces or interengaging cam surfaces at a free end portion of the head portion. Therefore, this document is not considered to anticipate new claim 18.

Hardeman (US 1,177,620) arguably has a flexible head portion comprising two parts 15, 21 pivotally interconnected by pin 20 and together mounted via slot 16 on pin 14 for movement relative to the pin 14. When located about a pipe, one of cut outs 23' is engaged with pin 14 to tightly engage the pipe with teeth 22, 23 firmly gripping into the pipe. The ring is fixed at this time and there are no cam surfaces which interact to push the ring portion in a peripheral direction about the workpiece of pipe. Therefore Hardeman is not considered to anticipate new claim 18.

The two Stainbrook patents (US 1,569,148 and US 2,435,329) show either a flexible strap with a ratchet tooth arrangement "148" or a ring portion having interconnected segments and a ratchet tooth arrangement "329". As torque is applied to a workpiece, teeth at the end of the handle 16 engage with teeth on block 19 attached to the flexible band (6, 7). As more torque is applied the band is forced in a peripheral direction about a workpiece to tighten onto the workpiece. This is not a sliding cam arrangement as required by applicant's invention and moreover it does not achieve a similar manner of operation. Both Stainbrook patents teach, although admittedly not specified, that as torque is applied the central portion of engagement of the interlocking teeth moves further and further away from the open end or free end of the band 6, 7. Therefore, although peripheral movement of the band occurs there is nothing to maintain pressure on

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the workpiece at the free end of the band other than steel band 6 itself. Nevertheless, pressure must decrease at that free end.

Applicant's invention on the other hand has two cam surfaces which slide one relative the other but as they slide more pressure is applied to the free open end of the flexible head portion to continuously increase pressure on this free end and maximise the efficiency of the wrench which by the way has a very smooth internal surface and does not rely on liners to achieve a turning motion.

Bearing in mind the above comments, Jones (US 1,584,861) discloses a chain link arrangement for pipes and relies on teeth 18 to provide a grip. The pin 15 lodged at the bottom of its slot causes tightening movement of the chain more in a tangential than a peripheral direction of a workpiece. Please note teeth 18 have only a point contact rather than all over contact with the workpiece. Furthermore, there are no interengaging cam surfaces.

Sparling (US 4,967,612) discloses a wrench which is much closer to applicant's invention. Sparling shows a flexible head portion pivotal about pin 28 with a substantially circular external surface and an internal surface configured to engage a flare nut. Column 1 lines 50 to 53 clearly states in use an upstanding prong 22 presses socket face 31 to squeeze socket 27 against the flare nut. See also column 3, lines 15-17. However, there is no peripheral movement of the head portion. The angle between the flat orthogonal flare nut surface and the contact surface 24 suggests in fact that if any movement did occur it would be to force the open end of the head portion outwards losing grip on the flare nut.

The Daimler Benz publication 1,603,767 does not disclose a flexible head portion but two rigid portions substantially held together by pin 8 and prong 7. Applied torque merely presses together parts 5 and 6 to clamp a workpiece. There is no flexibility, it is not a truly open ended head arrangement and there is no peripheral movement around a workpiece.

Coes (US 1,464,128) discloses a wrench handle from which extends a resilient extension 2, 3. This is essentially a prong arrangement similar to "612" where the extension is simply pressed against a workpiece. There are no cam surfaces or peripheral movement to tighten the extension about the workpiece.

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Shelf (US 1,666,353) again illustrates a chain link arrangement not within scope of applicant's invention. No cam surfaces to effect pressure, relies on teeth to achieve gripping of pipe.

Mancho (GB 235,434) discloses a wrench in which a pin F mounted in the end of arm C of the head portion is engaged by a hook in the end of handle/lever D. Nowhere is there disclosed or taught the use of interengaging cam surfaces to effect an ever increasing pressure effecting peripheral movement about the workpieces. The movement here is a clamping or pressing against the workpiece type movement.

For the reasons set forth above, it is applicant's position that the newly submitted claims 17-34 set forth structural limitations that are absent from the cited references. Therefore, the claims are not anticipated.

In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Commissioner is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185.

Date:

3/20/03

Respectfully submitted,



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